



# EPA finalizes its plan to clean up the Gowanus Canal Superfund Site

Community Update

September 2013

## What is Superfund?

Superfund, which was established in 1980 by Congress, gave the EPA the funds and authority to investigate and clean up polluted sites. The goals of Superfund are:

- Protect human health and the environment by cleaning up polluted sites
- Involve communities in the Superfund process
- Make responsible parties pay for work performed at Superfund sites

## UPDATE

The U.S. Environmental Protection Agency has finalized its plan to clean up the Gowanus Canal **Superfund** site. The final plan includes removing contaminated sediment that has accumulated as a result of industrial and sewer discharges from the bottom of the canal by dredging. The dredged areas will be capped. The plan also includes controls to prevent combined sewer overflows, or **CSOs**, and other land-based sources of contamination from compromising the cleanup.

With community input, EPA has decided on the option in the proposed plan that will require the disposal of the least contaminated sediment at a facility out of the area rather than building a disposal facility in the water near Red Hook.

The cost of the cleanup plan is estimated to be \$506 million.

## Overview of the Final Plan

The plan divides the canal into three segments. The first segment runs from the top of the canal to 3<sup>rd</sup> Street, the second segment from 3<sup>rd</sup> Street to just south of the Hamilton Avenue Bridge and the third segment runs from the Hamilton Avenue Bridge to the mouth of the canal. EPA will remove approximately 307,000 cubic yards of highly contaminated sediment from the first and second segments, by dredging. For the third segment, the EPA will dredge approximately 281,000 cubic yards of contaminated sediment. The plan also calls for removing contaminated material that was placed in the 1<sup>st</sup> Street Turning Basin decades ago and restoring about 475 feet of the former basin. EPA will also require that a portion of the 5<sup>th</sup> Street turning basin underneath the 3<sup>rd</sup> Street Bridge and extending about 25 feet to the east of the bridge be dredged and restored.

## Capping in the Canal

In dredged areas of the canal where contamination exists in the native sediment, EPA will cap with multiple layers of clean material. The multi-layer cap consists of an “active” layer made of a specific type of clay that will remove contamination that could well up from below, an “isolation” layer of sand and gravel that will ensure that the contaminants are not exposed, and an “armor” layer of heavier gravel and stone to prevent erosion of the underlying layers from boat traffic and canal currents. Finally, sufficient clean sand will be placed on top of the “armor” layer to fill in the voids between the stones and to establish sufficient depth in order to restore the canal bottom as a habitat. In the middle and upper segment of the canal where the native sediment is contaminated with liquid coal tar, the EPA will stabilize that sediment by mixing it with concrete or similar materials. The stabilized areas will then be covered with the multiple layer cap as described above.

## Treatment of the Dredged Material

The final plan includes different methods for managing the dredged contaminated sediment. The more highly contaminated sediments from the first and second segments of the canal will be treated at an off-site facility through thermal desorption and the resulting decontaminated material might be reused, for

example as landfill cover. Thermal desorption removes organic contaminants from soil, sludge or sediment by heating them to make these contaminants evaporate. Evaporation changes the contaminants into vapors, which are in turn heated to temperatures high enough to destroy them.

The less contaminated sediments from the first and third segments of the canal will be stabilized by mixing with materials like cement and might be reused off-site.

## **Manufacturing Gas Plants and Combined Sewer Overflows (CSOs)**

Plants where gas was produced from coal, called manufactured gas plants, are being addressed by National Grid under NYSDEC oversight. EPA and NYSDEC have developed a coordinated schedule for the cleanup of these sites, which are a major source of contamination in the canal; so that they will not recontaminate the canal once it is cleaned up.

The EPA is requiring that combined sewer overflow discharges from two major outfalls in the upper portion of the canal be outfitted with retention tanks to reduce the volume of contaminated sewage solid discharges. It is estimated that a reduction of 58% to 74% of these discharges will be needed to maintain the effectiveness of the cleanup. The final locations of these tanks will be determined during remedial design. In response to community concerns, the EPA has committed to working with the community to minimize temporary impacts from this requirement.

Copies of site-related documents, including copies of the Record of Decision are available at:

Carroll Gardens Library  
396 Clinton Street  
Brooklyn, NY  
11231

Red Hook Library  
7 Wolcott St  
Brooklyn, NY  
11231

EPA- Region 2  
Superfund records Center  
290 Broadway, 18<sup>th</sup> Floor  
New York, NY 10007

Or you can also access information online at:

[www.EPA.gov/region2/superfund/npl/gowanus](http://www.EPA.gov/region2/superfund/npl/gowanus)

### **What is a CSO?**

A CSO happens when the flow capacity of a sewer system is exceeded during rainstorms. The mixture of storm water and sewage overflows the capacity of the sewer system and discharges at specific outfalls. There are several outfalls along the Gowanus Canal that receive sewer overflows during storm events.

### **If you would like additional information, please contact:**

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## **SITE BACKGROUND**

The Gowanus Canal was built in the mid-1800s and was used as a major industrial transportation route. Manufactured gas plants, paper mills, tanneries and chemical plants operated along the canal and polluted it. In addition, contamination flows into the canal from overflows from sewer systems that carry sanitary waste from homes and rainwater from storm drains and industrial pollutants. As a result, the Gowanus Canal has become one of the nation's most seriously contaminated water bodies. More than a dozen contaminants, including polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and heavy metals, including mercury, lead and copper, are found at high levels in the sediment in the Gowanus Canal. PAHs are a group of chemicals that are formed during the incomplete burning of coal, oil, wood, garbage and other organic substances and are also found in motor oils, tar and asphalt. PCBs were used as coolants and lubricants in transformers, capacitors and other electrical equipment and their manufacture was banned in 1979. PCBs and PAHs are suspected to be cancer-causing and PCBs can have neurological effects. In 2010 the Gowanus Canal was added to the Superfund list of the nation's most contaminated hazardous waste sites.